

Columbus * * * * *

FILE 'HOME' ENTERED AT 14:40:14 ON 09 AUG 2005

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'STNGUIDE' ENTERED AT 14:40:20 ON 09 AUG 2005

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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Aug 5, 2005 (20050805/UP).

=> file pnttext

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.06

0.27

FILE 'EPFULL' ENTERED AT 14:40:29 ON 09 AUG 2005

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FILE 'RDISCLOSURE' ENTERED AT 14:40:29 ON 09 AUG 2005

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FILE 'USPATFULL' ENTERED AT 14:40:29 ON 09 AUG 2005

CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 14:40:29 ON 09 AUG 2005

CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> s free lactic acid# and dissolved lactate salt#
5 FILES SEARCHED...

L1 16 FREE LACTIC ACID# AND DISSOLVED LACTATE SALT#

=> s l1 and filter?
5 FILES SEARCHED...

L2 11 L1 AND FILTER?

=> s l2 and extract? and phase#
5 FILES SEARCHED...

L3 11 L2 AND EXTRACT? AND PHASE#

=> s l3 and recycle?
5 FILES SEARCHED...

L4 11 L3 AND RECYCLE?

=> s l4 and fermentation broth#
L5 11 L4 AND FERMENTATION BROTH#

=> s l5 and lactide#
L6 11 L5 AND LACTIDE#

=> s l6 and catalyst#

L7 8 L6 AND CATALYST#

=> s 17 and adsorbent#

L8 8 L7 AND ADSORBENT#

=> s 18 and basic anion exchange resin#

L9 0 L8 AND BASIC ANION EXCHANGE RESIN#

=> s 18 and elut?

L10 8 L8 AND ELUT?

=> s 110 and evaporat?

L11 8 L10 AND EVAPORAT?

=> d 111 1-8

L11 ANSWER 1 OF 8 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1998:82116 EPFULL

DUPD 19990630 DUPW 199926

TIEN LACTIC ACID PROCESSING; METHODS; ARRANGEMENTS; AND, PRODUCTS.

TIFR TRAITEMENT DE L'ACIDE LACTIQUE; PROCEDES, AGENCEMENTS ET PRODUITS ASSOCIES.

TIDE MILCHSAeURE BEARBEITUNG: VERFAHREN, ANORDNUNG, UND PRODUKTEN.

IN EYAL, Aharon, M., Kibbutz Ramat Rachel, Jerusalem, IL;

STARR, John, N., 2350 Manvela Drive, Chaska, MN 55318, US;

FISHER, Rod, 16822 S. Shore Lane, Eden Prarie, MN 55346, US;

HAZAN, Betty, Iceland 17/22, Jerusalem, IL;

CANARI, Riki, Beit Zeit 34, Beit Zeit, IL;

WITZKE, David, R., 2420 McMullin Drive, Oskaloosa, IA 52577, US;

GRUBER, Patrick, Richard, 10951 Flanders Court N.E., Blaine, MN 55449, US;

KOLSTAD, Jeffrey, J., 16122 Ringer Road, Wayzata, MN 55391, US

PA Cargill, Incorporated, 15407 McGinty Road, P.O. Box 5624, Minneapolis, MN 55391-2399, US

PAN 2046665

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT WO 9919290 A2 19990422 International application published without search report

PI WO 9919290 A2 19990422

DS AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

AI EP 1998-953421 A 19981013

WO 1998-US21538 A 19981013

PRAI US 1997-950289 A 19971014

IC.VER 6

ICM C07C059-08

ICS C12P007-56

AN 1998:82116 EPFULL

DUPD 20011004 DUPW 200140

TIEN LACTIC ACID PROCESSING; METHODS; ARRANGEMENTS; AND, PRODUCTS.

TIFR TRAITEMENT DE L'ACIDE LACTIQUE; PROCEDES, AGENCEMENTS ET PRODUITS ASSOCIES.

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KOLSTAD, Jeffrey, J., 16122 Ringer Road, Wayzata, MN 55391, US

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PAN 2046665

AG Portal, Gerard, et al, Cabinet Beau de Lomenie 158, rue de l'Universite,
 75340 Paris Cedex 07, FR
 AGN 48943
 LAF English
 LA English
 LAP English
 TL German; English; French
 DT Patent
 PIT EPA2 Application published without search report
 PI EP 1023258 A2 20000802
 EP 1023258 A3 19990826
 WO 9919290 19990422
 DS AT BE CH DE ES FI FR GB IT LI NL SE
 AI EP 1998-953421 A 19981013
 WO 1998-US21538 A 19981013
 PRAI US 1997-950289 A 19971014
 IC.VER 7
 ICM C07C059-08
 ICS C12P007-56

AN 1998:82116 EPFULL
 DUPD 20040526 DUPW 200422
 TIEN LACTIC ACID PROCESSING; METHODS; ARRANGEMENTS; AND, PRODUCTS.
 TIFR TRAITEMENT DE L'ACIDE LACTIQUE; PROCEDES, AGENCEMENTS ET PRODUITS ASSOCIES.
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 CANARI, Riki, Beit Zeit 34, Beit Zeit, IL;
 WITZKE, David, R., 2420 McMullin Drive, Oskaloosa, IA 52577, US;
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 PAN 2046665
 AG Portal, Gerard, et al, Cabinet Beau de Lomenie 158, rue de l'Universite, 75340 Paris Cedex 07, FR
 AGN 48943
 LAF English
 LA English
 LAP English
 TL German; English; French
 DT Patent
 PIT EPB1 Granted patent
 PI EP 1023258 B1 20030604
 WO 9919290 19990422
 DS AT BE CH DE ES FI FR GB IT LI NL SE
 AI EP 1998-953421 A 19981013
 WO 1998-US21538 A 19981013
 PRAI US 1997-950289 A 19971014
 REN SAN-MARTIN M ET AL: "LIQUID-LIQUID EXTRACTION OF LACTIC ACID WITH ALAMINE 336" JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY (INTERNATIONAL JOURNAL OF BIOTECHNICAL AND CHEMICAL PROCESSES), vol. 65, no. 3, 1 March 1996, pages 281-285, XP000581231
 REP EP 614983 A
 WO 9306226 A
 WO 9503268 A
 WO 9525081 A
 WO 9532301 A
 WO 9815517 A
 WO 9815519 A
 WO 9919503 A
 IC.VER 7
 ICM C07C059-08
 ICS C12P007-56

L11 ANSWER 2 OF 8 PCTFULL COPYRIGHT 2005 Univentio on STN
AN 1999019290 PCTFULL ED 20020515
TIEN LACTIC ACID PROCESSING; METHODS; ARRANGEMENTS; AND, PRODUCTS
TIFR TRAITEMENT DE L'ACIDE LACTIQUE; PROCEDES, AGENCEMENTS ET PRODUITS
ASSOCIES

IN EYAL, Aharon, M.;
STARR, John, N.;
FISHER, Rod;
HAZAN, Betty;
CANARI, Riki;
WITZKE, David, R.;
GRUBER, Patrick, Richard;
KOLSTAD, Jeffrey, J.

PA CARGILL, INCORPORATED;
EYAL, Aharon, M.;
STARR, John, N.;
FISHER, Rod;
HAZAN, Betty;
CANARI, Riki;
WITZKE, David, R.;
GRUBER, Patrick, Richard;
KOLSTAD, Jeffrey, J.

LA English
DT Patent
PI WO 9919290 A2 19990422

DS W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH GM KE LS MW
SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK
ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA
GN GW ML MR NE SN TD TG

AI WO 1998-US21538 A 19981013
PRAI US 1997-08/950,289 19971014
ICM C07C059-08
ICS C12P007-56

L11 ANSWER 3 OF 8 USPATFULL on STN
AN 2004:268545 USPATFULL
TI Lactic acid processing; methods; arrangements; and, products
IN Eyal, Aharon M., Jerusalem, ISRAEL
Starr, John N., Chaska, MN, UNITED STATES
Fisher, Rod, Eden Prairie, MN, UNITED STATES
Hazan, Betty, Jerusalem, ISRAEL
Canari, Riki, Beit Zeit, ISRAEL
Witzke, David R., Oskaloosa, IA, UNITED STATES
Gruber, Patrick R., Blaine, MN, UNITED STATES
Kolstad, Jeffrey J., Wayzata, MN, UNITED STATES
PA Cargill, Incorporated, Minneapolis, MN (non-U.S. corporation)
PI US 2004210088 A1 20041021
AI US 2004-788696 A1 20040226 (10)
RLI Continuation of Ser. No. US 2003-390958, filed on 18 Mar 2003, ABANDONED
Continuation of Ser. No. US 2001-927116, filed on 10 Aug 2001, GRANTED,
Pat. No. US 6534679 Continuation of Ser. No. US 1998-132720, filed on 12
Aug 1998, GRANTED, Pat. No. US 6320077 Continuation of Ser. No. US
1997-950289, filed on 14 Oct 1997, GRANTED, Pat. No. US 6229046

DT Utility
FS APPLICATION
LN.CNT 2627
INCL INCLM: 562/589.000
INCLS: 528/271.000
NCL NCLM: 562/589.000
NCLS: 528/271.000

IC [7]
ICM: C07C059-08

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 4 OF 8 USPATFULL on STN
AN 2003:251947 USPATFULL

TI Lactic acid processing; methods; arrangements; and, products
IN Eyal, Aharon M., Jerusalem, ISRAEL
Starr, John N., Chaska, MN, UNITED STATES
Fisher, Rod, Eden Prairie, MN, UNITED STATES
Hazan, Betty, Jerusalem, ISRAEL
Canari, Riki, Beit Zeit, ISRAEL
Witzke, David R., Oskaloosa, IA, UNITED STATES
Gruber, Patrick R., Blaine, MN, UNITED STATES
Kolstad, Jeffrey J., Wayzata, MN, UNITED STATES
PA Cargill, Incorporated, Minneapolis, MN (non-U.S. corporation)
PI US 2003176736 A1 20030918
AI US 2003-390958 A1 20030318 (10)
RLI Continuation of Ser. No. US 2001-927116, filed on 10 Aug 2001, GRANTED,
Pat. No. US 6534679 Continuation of Ser. No. US 1998-132720, filed on 12
Aug 1998, GRANTED, Pat. No. US 6320077 Continuation of Ser. No. US
1997-950289, filed on 14 Oct 1997, GRANTED, Pat. No. US 6229046
DT Utility
FS APPLICATION
LN.CNT 2608
INCL INCLM: 562/580.000
INCLS: 562/589.000
NCL NCLM: 562/580.000
NCLS: 562/589.000
IC [7]
ICM: C07C051-42
ICS: C07C059-08
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 5 OF 8 USPATFULL on STN
AN 2002:8611 USPATFULL
TI Lactic acid processing; methods; arrangements; and, products
IN Eyal, Aharon M., Jerusalem, ISRAEL
Starr, John N., Chaska, MN, UNITED STATES
Fisher, Rod, Eden Prairie, MN, UNITED STATES
Hazan, Betty, Jerusalem, ISRAEL
Canari, Riki, Beit Zeit, ISRAEL
Witzke, David R., Oskaloosa, IA, UNITED STATES
Gruber, Patrick R., Blaine, MN, UNITED STATES
Kolstad, Jeffrey J., Wayzata, MN, UNITED STATES
PA Cargill, Incorporated, Minneapolis, MN, UNITED STATES (non-U.S.
corporation)
PI US 2002004611 A1 20020110
US 6534679 B2 20030318
AI US 2001-927116 A1 20010810 (9)
RLI Continuation of Ser. No. US 1998-132720, filed on 12 Aug 1998, PENDING
Continuation of Ser. No. US 1997-950289, filed on 14 Oct 1997, GRANTED,
Pat. No. US 6229046
DT Utility
FS APPLICATION
LN.CNT 2612
INCL INCLM: 562/589.000
NCL NCLM: 562/589.000
NCL NCLM: 562/589.000
NCLS: 435/139.000; 562/580.000; 562/593.000
IC [7]
ICM: C07C059-08
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 6 OF 8 USPATFULL on STN
AN 2001:209033 USPATFULL
TI Lactic acid processing; methods; arrangements; and, product
IN Eyal, Aharon M., Jerusalem, Israel
Starr, John N., Chaska, MN, United States
Fisher, Rod, Eden Prairie, MN, United States
Hazan, Betty, Jerusalem, Israel
Canari, Riki, Beit Zeit, Israel
Witzke, David R., Oskaloosa, IA, United States
Gruber, Patrick R., Blaine, MN, United States
Kolstad, Jeffrey J., Wayzata, MN, United States

PA Cargill, Incorporated, Minneapolis, MN, United States (U.S. corporation)
PI US 6320077 B1 20011120
AI US 1998-132720 19980812 (9)
RLI Continuation of Ser. No. US 1997-950289, filed on 14 Oct 1997 And Ser.
No. US 1999-284160, filed on 25 Oct 1999
DT Utility
FS GRANTED
LN.CNT 2705
INCL INCLM: 562/589.000
INCLS: 562/580.000; 562/593.000; 435/139.000
NCL NCLM: 562/589.000
NCLS: 435/139.000; 562/580.000; 562/593.000
IC [7]
ICM: C07C059-08
ICS: C07C051-42; C12P007-56
EXF 562/589; 562/580; 562/593; 435/139
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 7 OF 8 USPATFULL on STN
AN 2001:67857 USPATFULL
TI Lactic acid processing methods arrangements and products
IN Eyal, Aharon M., Jerusalem, Israel
Starr, John N., Chaska, MN, United States
Fisher, Rod, Eden Prairie, MN, United States
Hazan, Betty, Jerusalem, Israel
Canari, Riki, Beit Zeit, Israel
Witzke, David R., Oskaloosa, IA, United States
Gruber, Patrick R., Blaine, MN, United States
Kolstad, Jeffrey J., Wayzata, MN, United States
PA Cargill, Incorporated, Minneapolis, MN, United States (U.S. corporation)
PI US 6229046 B1 20010508
AI US 1997-950289 19971014 (8)
DT Utility
FS Granted
LN.CNT 2681
INCL INCLM: 562/589.000
INCLS: 562/580.000; 562/593.000; 435/139.000
NCL NCLM: 562/589.000
NCLS: 435/139.000; 562/580.000; 562/593.000
IC [7]
ICM: C07C059-08
ICS: C07C051-42; C12P007-56
EXF 562/589; 562/580; 562/593; 435/139
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 8 OF 8 USPAT2 on STN
AN 2002:8611 USPAT2
TI Lactic acid processing; methods; arrangements; and, products
IN Eyal, Aharon M., Jerusalem, ISRAEL
Starr, John N., Chaska, MN, United States
Fisher, Rod, Eden Prairie, MN, United States
Hazan, Betty, Jerusalem, ISRAEL
Canari, Riki, Beit Zeit, ISRAEL
Witzke, David R., Oskaloosa, IA, United States
Gruber, Patrick R., Blaine, MN, United States
Kolstad, Jeffrey J., Wayzata, MN, United States
PA Cargill, Incorporated, Minneapolis, MN, United States (U.S. corporation)
PI US 6534679 B2 20030318
AI US 2001-927116 20010810 (9)
RLI Continuation of Ser. No. US 1998-132720, filed on 12 Aug 1998, now
patented, Pat. No. US 6320077 Continuation of Ser. No. US 1997-950289,
filed on 14 Oct 1997, now patented, Pat. No. US 6229046
DT Utility
FS Granted
LN.CNT 2668
INCL INCLM: 562/589.000
INCLS: 562/580.000; 562/593.000; 435/139.000
NCL NCLM: 562/589.000
NCL NCLM: 562/589.000

NCLS: 435/139.000; 562/580.000; 562/593.000

IC [7]

ICM: C07C059-08

ICS: C07C051-42; C12P007-56

EXF 562/589; 562/580; 562/593; 435/139

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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